

WHAT IS CLAIMED IS:

1. A reflecting microoptical system comprising, from a long conjugate distance side, a first surface convex to the long conjugate distance side and a second surface convex to a side opposite to the long conjugate distance side,
5 wherein luminous flux passing through a peripheral part of said first surface is reflected at a peripheral part of said second surface, is again reflected at a central part of said first surface and is imaged in the vicinity of a vertex of said second surface.

10 2. A reflecting microoptical system as claimed in claim 1,
wherein said first surface and said second surface are both aspherical.

3. A reflecting microoptical system as claimed in claim 1,
wherein said first surface is aspherical.

4. A reflecting microoptical system as claimed in claim 1,
wherein said second surface is aspherical.

15 5. A reflecting microoptical system comprising, from a long conjugate distance side, a first surface convex to the long conjugate distance side and a second surface that is a plane surface,
wherein luminous flux passing through a peripheral part of said first surface is reflected at a peripheral part of said second surface, is again reflected at a central part of said first surface and is imaged in the vicinity of a vertex of said second surface.

20 6. A reflecting microoptical system as claimed in claim 5, wherein
said first surface is aspherical.

~~7.~~ A reflecting microoptical system comprising, from a long conjugate distance side, a first surface that is a plane surface and a second surface convex to a side opposite to the long conjugate distance side,

~~5~~ wherein luminous flux passing through a peripheral part of said first surface is reflected at a peripheral part of said second surface, is again reflected at a central part of said first surface and is imaged in the vicinity of a vertex of said second surface.

~~8.~~ A reflecting microoptical system as claimed in claim 7,
wherein said second surface is aspherical.

~~10~~ 9. A reflecting microoptical system comprising, from a long conjugate distance side, a first surface concave to the long conjugate distance side and a second surface strongly convex to a side opposite to the long conjugate distance side,

~~15~~ wherein luminous flux passing through a peripheral part of said first surface is reflected at a peripheral part of said second surface, is again reflected at a central part of said first surface and is imaged in the vicinity of a vertex of said second surface.

~~20~~ 10. A reflecting microoptical system as claimed in claim 9,
wherein said first surface and said second surface are both aspherical.

~~11.~~ A reflecting microoptical system as claimed in claim 9,
wherein said first surface is aspherical.

~~12.~~ A reflecting microoptical system as claimed in claim 9,
wherein said second surface is aspherical.

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13. A reflecting microoptical system comprising a lens element having a first surface on the long conjugate distance side thereof with a reflective coating on a central portion thereof and a light admitting area at the periphery of said reflective coating, and a second surface on the opposite side thereof with a reflective coating on a peripheral portion thereof and a light transmissive region at the central portion thereof, wherein at least one of said first and second surfaces is convex.

14. The reflecting microoptical system of claim 13 wherein at least one of said first and second surfaces has an aspherical shape.

10 15. The reflecting microoptical system of claim 13 wherein both of said first and second surfaces are convex.

16. The reflecting microoptical system of claim 13 wherein the other of said first and second surfaces is planar.

15 17. The reflecting microoptical system of claim 16 wherein said first surface is convex and said second surface is planar.

18. The reflecting microoptical system of claim 16 wherein said first surface is planar and said second surface is convex.

19. The reflecting microoptical system of claim 16 wherein said convex surface has an aspherical shape.

20 20. The reflecting microoptical system of claim 13 wherein said first surface is concave and said second surface is convex.

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21. The reflecting microoptical system of claim 20 wherein at least one of said surfaces has an aspherical shape.

22. The reflecting microoptical system of claim 21 wherein said first surface has an aspherical shape.

5 23. The reflecting microoptical system of claim 21 wherein said second surface has an aspherical shape.

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24. The reflecting microoptical system of claim 13 wherein said lens element is made of molded glass.